

REMARKS

Claims 1, 3, 5-8, 10, 12-15, 17, 19-21, and 26 are pending in the application.

Claims 1, 3, 5-8, 10, 12-15, 17, 19-21, and 26 stand rejected.

Claims 1, 3, 5-8, 10, 12-15, 17, and 19-21 have been amended. Support for these amendments can be found throughout the originally filed application. For example, see FIG. 6 and paragraphs [0030], and [0040]-[0042] of the specification.

Claim 26 has been canceled. Claims 27 and 28 have been added.

Examiner Interview

Applicants express appreciation for the Examiner's participation in the telephonic interview of June 23, 2009, and acknowledge the Examiner's comments regarding the pending claims, and cited references. The amendments and remarks contained herein are offered with these discussions in mind.

Rejection of Claims under 35 U.S.C. §103

Claims 1, 3, 5-8, 10, 12-15, 17, 19-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Federwisch, U.S. Patent No. 6,889,228 B1 ("Federwisch"), in view of Patterson, et al., "SnapMirror: File-System-Based Asynchronous Mirroring for Disaster Recovery" ("Patterson"). See Office Action, p. 2. Applicants offer amendments and respectfully traverse this rejection.

Independent claims 1, 3, 8, 10, 15, and 17 have been amended to include limitations directed towards (1) synchronizing data volumes of several nodes, and (2) writing data to be written to a data volume of a first node to the data volume of the first node after, or in parallel.

with, the replication of the data to a data volume of a second node from the first node. Applicants submit that the cited sections of Federwisch and Patterson fail to teach these limitations. In fact, Applicants submit that Federwisch cannot be modified to conform to the second of these limitations without being rendered unsuitable for its intended purpose and changing its principle of operation.

Regarding the first of these limitations, not only have Applicants been unable to detect within the cited sections of either Federwisch or Patterson any mention of synchronizing the data volumes of several nodes, Federwisch appears to have no need of synchronizing several of its mirrors and submirrors at some point in time.

Federwisch appears to acknowledge and account for the fact that, at any given point in time, the currency of data stored on any one of its “downstream” mirrors may vary from that stored on any of its other mirrors. Federwisch states that “if any filer is current only up to a snapshot on the master filer, that snapshot is needed for mirroring to that filer.” *See* Federwisch 5:40-42. Therefore, Federwisch states that “[i]n a preferred embodiment, each filer maintains softlocks that indicate what snapshots on the filer correspond to volumes mirrored to downstream filers.” *See* Federwisch 5:54-57. Thus, Federwisch appears to provide a generalized mechanism for handling all cases in which data currency varies from mirror to mirror. This appears to suggest that Federwisch has no need of synchronizing several of its mirrors and submirrors at some point in time. For this reason it appears that Federwisch fails to contemplate an affirmative act of synchronization.

Regarding the second of these limitations, Applicants have been unable to detect within the cited sections of either Federwisch or Patterson any teaching regarding writing data to be written to a data volume of a first node to the data volume of the first node after, or in parallel

with, the replication of the data to a data volume of a second node from the first node. In fact, Applicants submit that the invention alleged by Federwisch cannot be modified to conform to the second of these limitations without being rendered unsuitable for its intended purpose and changing its principle of operation.

Federwisch alleges the teaching of an invention that, among other things, “propagates data by mirroring the data from a first filer to a second filer, and then mirroring the data from the second filer to a third filer.” See Federwisch, Abstract and 6:27-30. The invention allegedly “addresses limitations in the prior art that do not allow mirrors to be sources for other mirrors.” See Federwisch 5:43-44. Federwisch allegedly operates by ensuring “that snapshots[, which determine the differences (i.e., new blocks and changes to blockmap) that need to be transferred to update a mirror of a volume of a downstream filer,] are not deleted from a master volume if those snapshots are required for [the] maintenance of submirrors.” See Federwisch 5:24-28 and 45-47. Thus, Federwisch alleges an invention having an intended purpose and principle of operation of successively propagating differences between data stored on upstream mirrors to downstream mirrors by maintaining the necessary snapshots. Thus, the intended purpose and principle of operation alleged by Federwisch are incompatible with the writing of data to be written to a first filer to the first filer after, or in parallel with, the propagation of that data to a second filter from the first filer. Since Federswisch’s alleged invention propagates differences between data stored on upstream mirrors to downstream mirrors, Federwisch’s alleged invention must write the data constituting those differences to its upstream filers before propagating the data to its downstream filers. Thus, even if Federwisch’s filers, which contain Federwisch’s mirrors, are comparable to the claimed nodes and Federwisch’s mirrors are comparable to the claimed data volumes (propositions Applicants do not necessarily support), Federwisch cannot

teach or be modified to teach writing data to be written to a data volume of a first node to the data volume of the first node after, or in parallel with, the replication of the data to a data volume of a second node from the first node, as claimed.

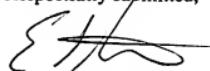
For at least these reasons, Applicants respectfully request the reconsideration and withdrawal of the rejection against independent claims 1, 3, 8, 10, 15, and 17 and their respective dependent claims, and a notice of the allowance of the same.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5093.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

Respectfully submitted,



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